Combinatorial Methods for Measurements of Polymer Materials (Invited)

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In addition to applications for synthesis, combinatorial methods hold potential for rapid and systematic generation of experimental data over the multi-parameter space typical of materials. We have applied combinatorial methods for research on polymer thin films, biomaterials, polymer blends, filled polymers, and semicrystalline polymers. By using simple and transferable examples of library fabrication, high-throughput measurements, informatics, and modeling we will demonstrate, for the examples of polymer film wetting and polymer blend phase separation, validation of methodology, discovery of new science, and developments toward predictive models.